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# Live-Fire Training Range Complex (LFTRC): Summary Fact Sheet

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This document summarizes the Chapter 5 of the 2014 Draft SEIS. For more detailed information on the topics presented

here, please refer to the 2014 Draft SEIS, which is available for review at the Robert F. Kennedy Memorial Library, located in the University of Guam, and the Nieves M. Flores Memorial Library in Hagåtña. The 2014 Draft SEIS can also be viewed online and downloaded at the websites listed below.

Download the complete Draft SEIS and related documents at these websites:

JGPO: [www.guambuildupeis.us](http://www.guambuildupeis.us)  
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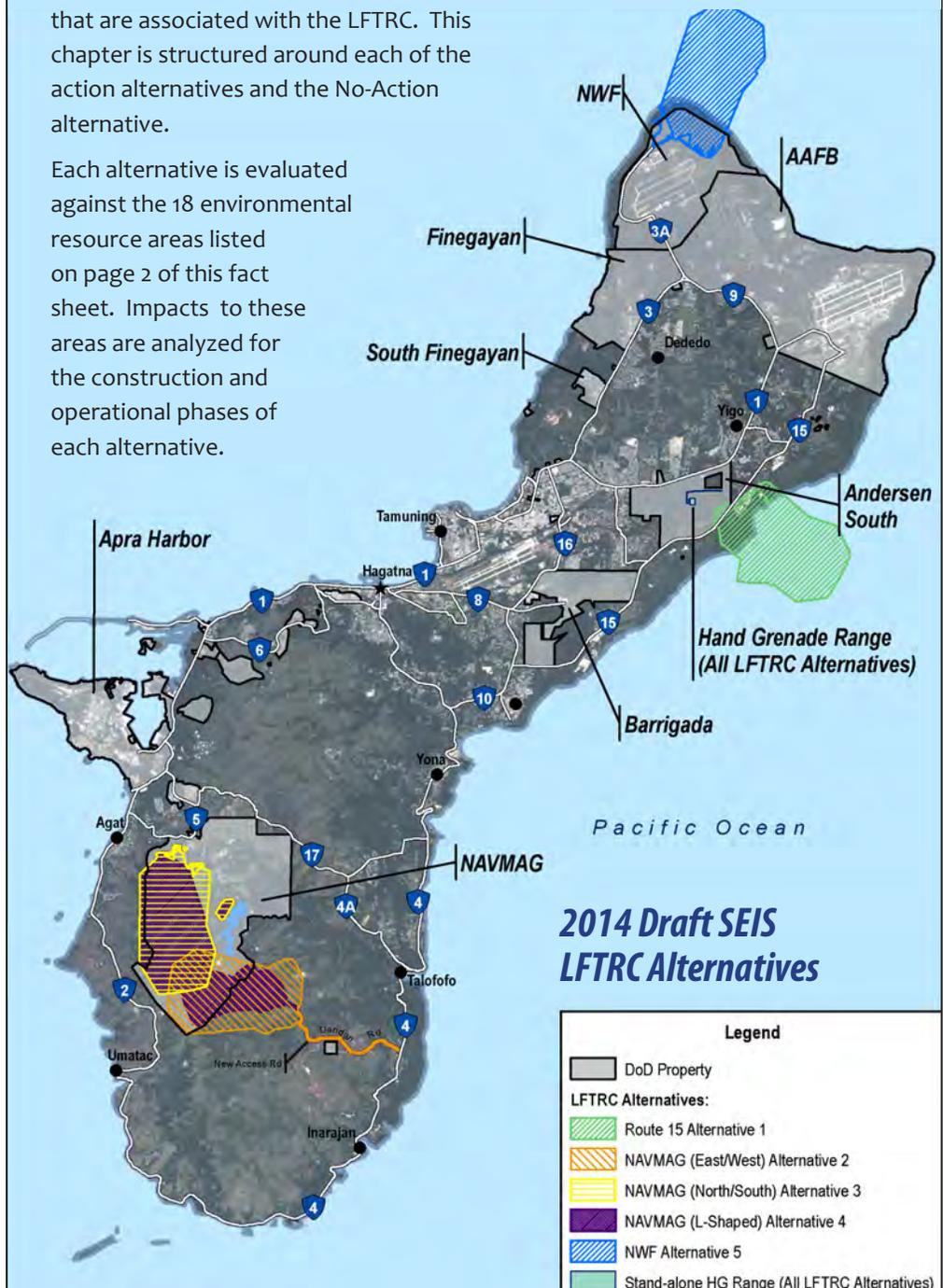
SHAPING THE FUTURE ... TOGETHER

SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT (SEIS) FOR A  
**LIVE-FIRE TRAINING RANGE COMPLEX (LFTRC) AND MAIN CANTONMENT  
AND FAMILY HOUSING LOCATION ON GUAM**

## Chapter 5: LFTRC Overview

Chapter 5 describes the affected environment and potential environmental consequences that are associated with the LFTRC. This chapter is structured around each of the action alternatives and the No-Action alternative.

Each alternative is evaluated against the 18 environmental resource areas listed on page 2 of this fact sheet. Impacts to these areas are analyzed for the construction and operational phases of each alternative.



2014 Draft SEIS  
LFTRC Alternatives

Legend	
	DoD Property
LFTRC Alternatives:	
	Route 15 Alternative 1
	NAVMAG (East/West) Alternative 2
	NAVMAG (North/South) Alternative 3
	NAVMAG (L-Shaped) Alternative 4
	NWF Alternative 5
	Stand-alone HG Range (All LFTRC Alternatives)

## LFTRC Utilization and Alternatives

The 2010 Final EIS proposed over 5,529 acres of land located at Route 15 for the project area, where 4,439 acres would be mostly ocean. This has been reduced to only 3,966 acres for the Northwest Field and 3,701 acres over the ocean. The actions analyzed in Chapter 5 of the 2014 Draft SEIS include:

- 5 proposed alternatives
- No-Action Alternative (No LFTRC would be developed if the no-action alternative was chosen.)
- Onsite and offsite utilities to each Alternative
- Offsite utilities common to all Alternatives
- Construction of Hand Grenade (HG) Range at Anderson South which is common to all LFTRC alternatives.
- Construction of new ranges, range support buildings, roads, bridges, and related infrastructure

### Range Utilization

Night training is estimated to occur twice per week during qualification period and require consecutive firing days. The estimated annual usage of ammunition is approximately 47% less than analyzed in the 2010 Final EIS. The demand for joint use of the ranges would not change due to the reduced number of Marines, but would be reduced in use of operation (39 weeks per year instead of 45).

### Alternatives

The 2010 Final EIS presented seven alternatives for the LFTRC. However, the Route 15B and Finegayan alternatives were eliminated. The Route 15B alternative is not associated with a sufficient amount of airspace and cannot be mitigated without unacceptable



modifications to the training area. The Finegayan alternative was eliminated due to the impact of arrivals and departures out of the Guam International Airport. The following alternatives continued towards screening in the 2014 Draft SEIS:

1. Route 15
2. NAVMAG East/West
3. NAVMAG North/South
4. NAVMAG L-shaped
5. Northwest field (preferred)

Northwest Field is currently under federal custody and control by the

Department of the Interior (DOI). Route 15 is currently owned by GovGuam. Naval Magazine (NAVMAG) alternatives are all under private ownership.

Acquisition of more than 1,000 acres of non-federal land was required in the 2010 Final EIS at Route 15, but the 2014 Draft SEIS notes that this acquisition is no longer needed for the preferred Alternative 5.

Land acquisition impacts for Alternatives 2, 3, and 4 focus on the federal appropriation of private land that is no longer taxable to the government of Guam.

## 18 Environmental Resource Areas Evaluated for Impacts in Each Alternative

- |                                     |  |
|-------------------------------------|--|
| 1. Geological and Soil Resources    | 10. Cultural Resources                                   |
| 2. Water Resources                  | 11. Visual Resources                                     |
| 3. Air Quality                      | 12. Ground Transportation                                |
| 4. Noise                            | 13. Marine Transportation                                |
| 5. Airspace                         | 14. Utilities  |
| 6. Land / Submerged Land Use        | 15. Socioeconomic and General Services                   |
| 7. Recreational Resources           | 16. Hazardous Materials and Waste                        |
| 8. Terrestrial Biological Resources | 17. Public Health and Safety                             |
| 9. Marine Biological Resources      | 18. Environmental Justice and the Protection of Children |

## Alternative 1 : Route 15

Alternative 1 proposes the development of a LFTRC on land that is adjacent to Andersen South. Route 15 would be located on the eastern side of the northern limestone structural province. Improvements after construction would consist of warning signs along the shoreline and range boundaries.

### Construction Phase Impacts

Significant impacts would be directed over 255 acres of Limestone Forest. In addition, the site and range will be constructed above the tsunami elevation to reduce weather related concerns. This area contains three historical properties which would be demolished under this Alternative.

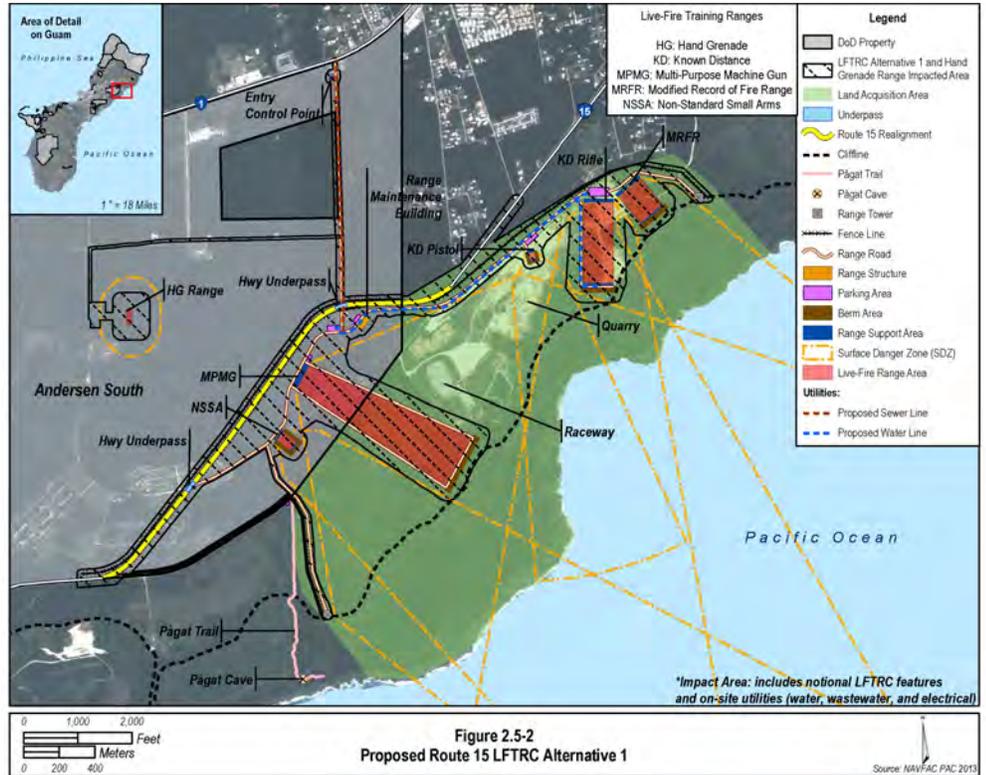
### Operation Phase Impacts

Operations would extend over Pagat Point cultural site and would cause significant impacts because of new restrictions on public access to the coastlines and submerged lands.

Land acquisition impacts would cause long-term direct impacts due to the loss of a community valued area and the Guam international Raceway. No potential mitigations have been identified since the raceway license expires in the year 2018, and no actions have been taken to renew.

There are some compatibility issues with the current and future land use for Alternative 1. Noise levels for the operation of Alternative 1 would impact nearby residents in about 22 homes. Sound berms and foliage are options to help reduce the amount of noise and level of exposure to residents. Future land use plans could potentially minimize incompatible development.

Civilian air traffic would cause significant impacts due to the following operational activities:



- Guam International airspace and instrument approach procedures
- Standard Instrument Departures and Standard Terminal Arrivals
- Instrument Flight Rules (IFR)/Visual Flight Rules (VFR) traffic flows and terminal operations
- Known but uncharted high volume routes
- Existing Special Use Airspace (SUA)/ Terminal Radar Service Area
- VFR Reporting Points

Some mitigation measures can be taken such as adjusting the airspace through Federal Aviation Administration (FAA) coordination, but would need further analysis to determine future operations.

### Geological Impacts

Some geological hazards include one major and one minor bedrock fault in the Alternative 1 project area. Since potential earthquakes can cause structure damage, this can be minimized by applying the Unified Facilities Criteria 3-310-04 Seismic Design of Buildings.

There would be a short-term visual impact to the land, but over time, the vegetation will start to blend. To minimize these impacts, native flora would be used to create a natural appearing screen area around the range.



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## Alternative 2 : NAVMAG (East / West)

Direct long-term potential impacts would occur to 17.7 acres of wetland areas for this alternative. Loss of wetlands would be mitigated by creating new wetlands or restoring already existing lands.

Other impacts for Alternative 2 have the potential to directly affect nine historic properties. Three unevaluated sites would degrade in integrity due to changes in use and one potentially from restricted access.

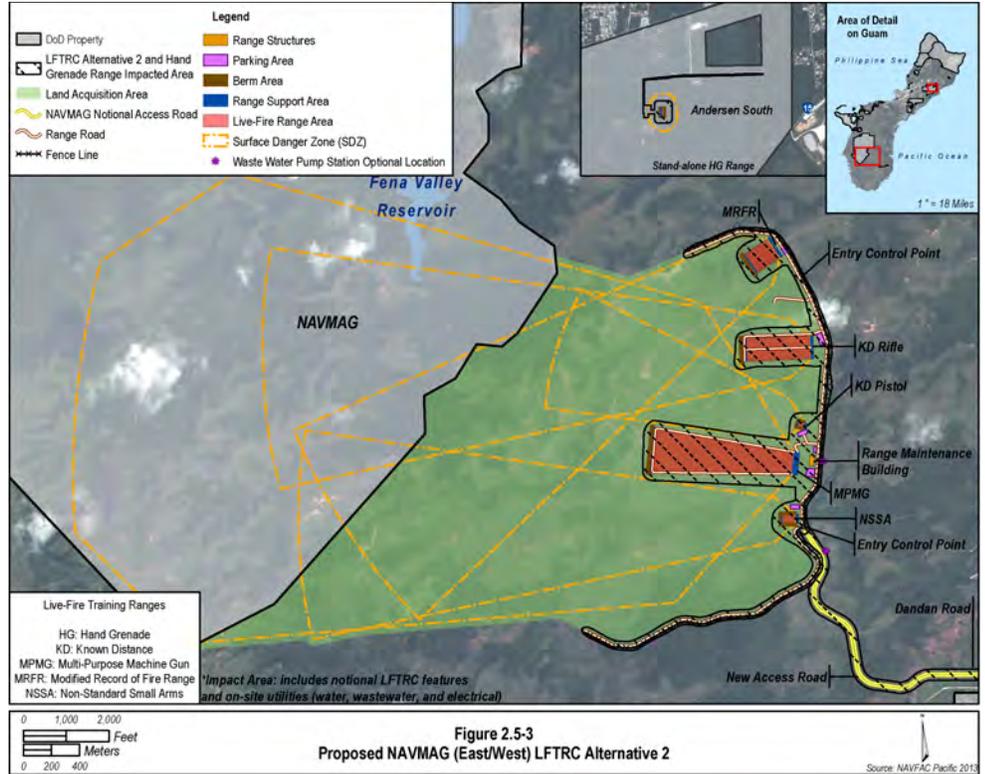
### Operation Phase Impacts

Valued land impacts would be a direct and long-term result of restricted access to a portion of the Bolanos Conservation Area.

Unlike the 2010 Final EIS, this option includes ranges and surface danger zones (SDZs) that extend outside the NAVMAG property to the east and therefore limit the public access if federally acquired.

There is a potential mitigation which would involve work with GovGuam in developing a plan to balance the lost conservation and access with operational needs and public safety concerns.

Civilian air traffic for this alternative has significant to moderate impacts. These impacts are equal to those discussed in Alternative 1.



Recreational Resource	Public Access
<b>Historic and Cultural Attractions</b>	
Fena Massacre Site	Installation personnel and guests only (open to the public for an annual memorial event)
<b>Scenic Points</b>	
Japanese Lookout	Installation personnel and guests only
<b>Fishing</b>	
Fena Reservoir	Installation personnel and guests only
<b>Parks</b>	
Talofofo Falls park and Hiking Trails on Non-DOD Property	Open to the public
<b>Other</b>	
Almagosa and Dobo Springs and Bonya	Installation personnel and guests only (and public by special request on a limited basis)



## Alternative 3 : NAVMAG (North / South)

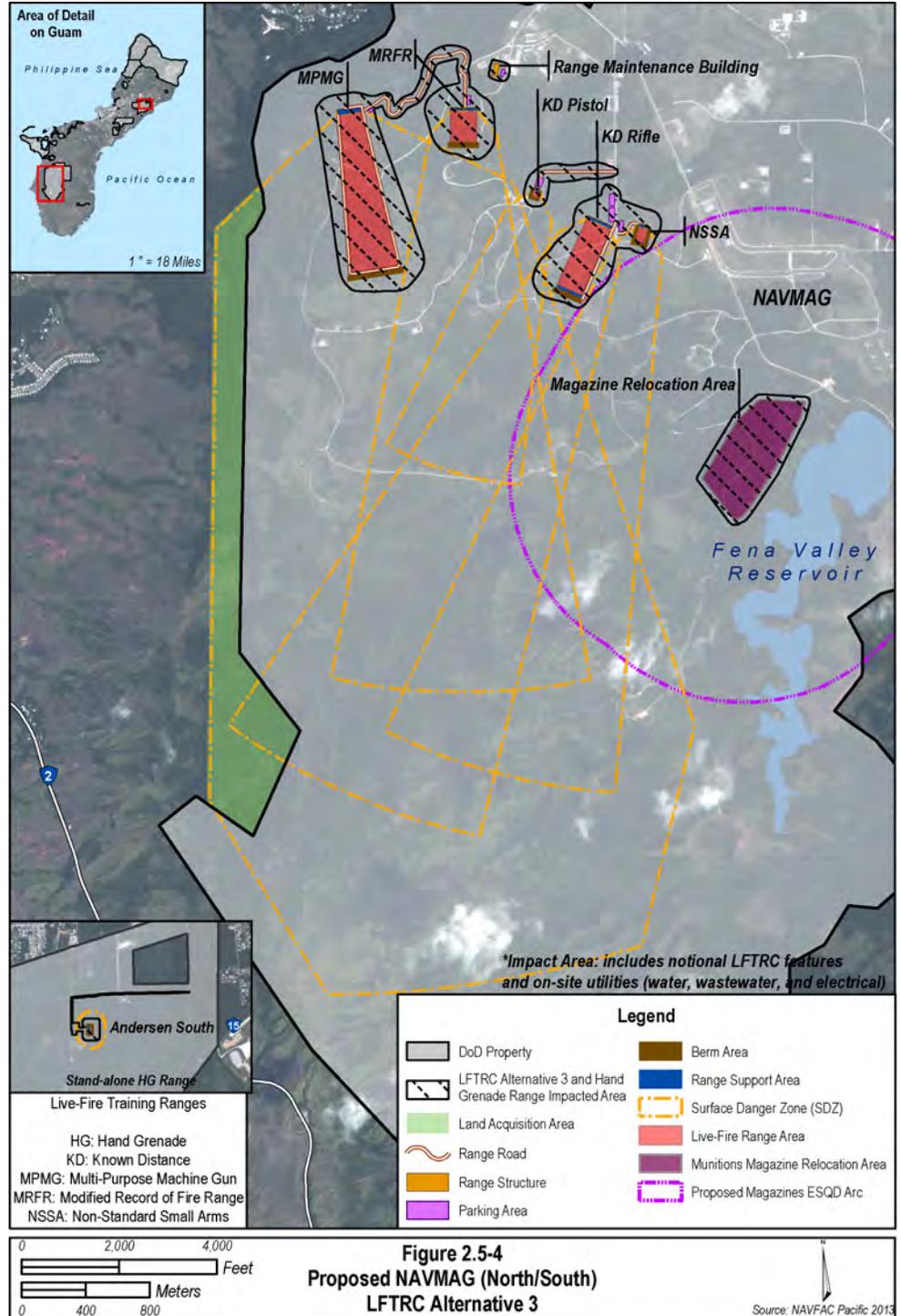
### Construction Phase Impacts

This alternative is located within the same mountainous area as Alternative 2, and would have the largest volume of impacts out of any of the alternatives. There are major topographical changes required for this alternative due to the surface elevation that needs to be adjusted for the construction of the Multi-Purpose Machine Gun (MPMG), Modified Record of Fire (MRF), known distance (KD) Ranges which would have a long-term direct significant impact.

Significant direct impacts would also potentially affect the wetlands area of up to 36.9 acres and would result in long term impacts at the MPMG, KD Rifle Range and roads. This alternative would have the greatest impact to the wetlands compared to all others.

Major impacts would occur to the vegetation of the area due to the development of 169 acres of limestone forest and 13 acres of ravine forest. The same level of impact would affect the conversion of the 275 acres of Overlay Refuge lands to developed area. Potential mitigation would be to expand the Orote Peninsula Ecological Reserve Area (ERA), and to develop a proposal to designate the ERA on NAVMAG.

Eleven historic properties, with important natural resources have the potential for direct moderate to significant impact due to soil removal. Site integrity is also significantly impacted for 25 National Register of Historic Places (NRHP) eligible archaeological sites with latte components. Direct effects could occur to two unevaluated sites and one potential Traditional Cultural Property (TCP), and indirect effects could occur to two potential TCPs.



**Figure 2.5-4**  
**Proposed NAVMAG (North/South)**  
**LFTRC Alternative 3**

### Operation Phase Impacts

Operational impacts to civilian air traffic would be the same as Alternatives 1 and 2. Long-term direct operational impacts would include Alternative 3 facilities being

visible from Jumullong Manglo and from the trails near the top of Mount Lamlam. This would allow portions of 3 miles of roadway, removed vegetation and cut features, and structures to be seen.



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## Alternative 4 : NAVMAG (L-shaped)

### Construction Phase Impacts

This alternative would combine the land areas of the other two NAVMAG alternatives. The major changes in surface elevation of the steep slopes would cause a long-term significant impact on the topography for construction of MPMG, and KD ranges. Alternative 4 would involve the second largest amount of excavation, with Alternative 2 being the least and 3 the highest.

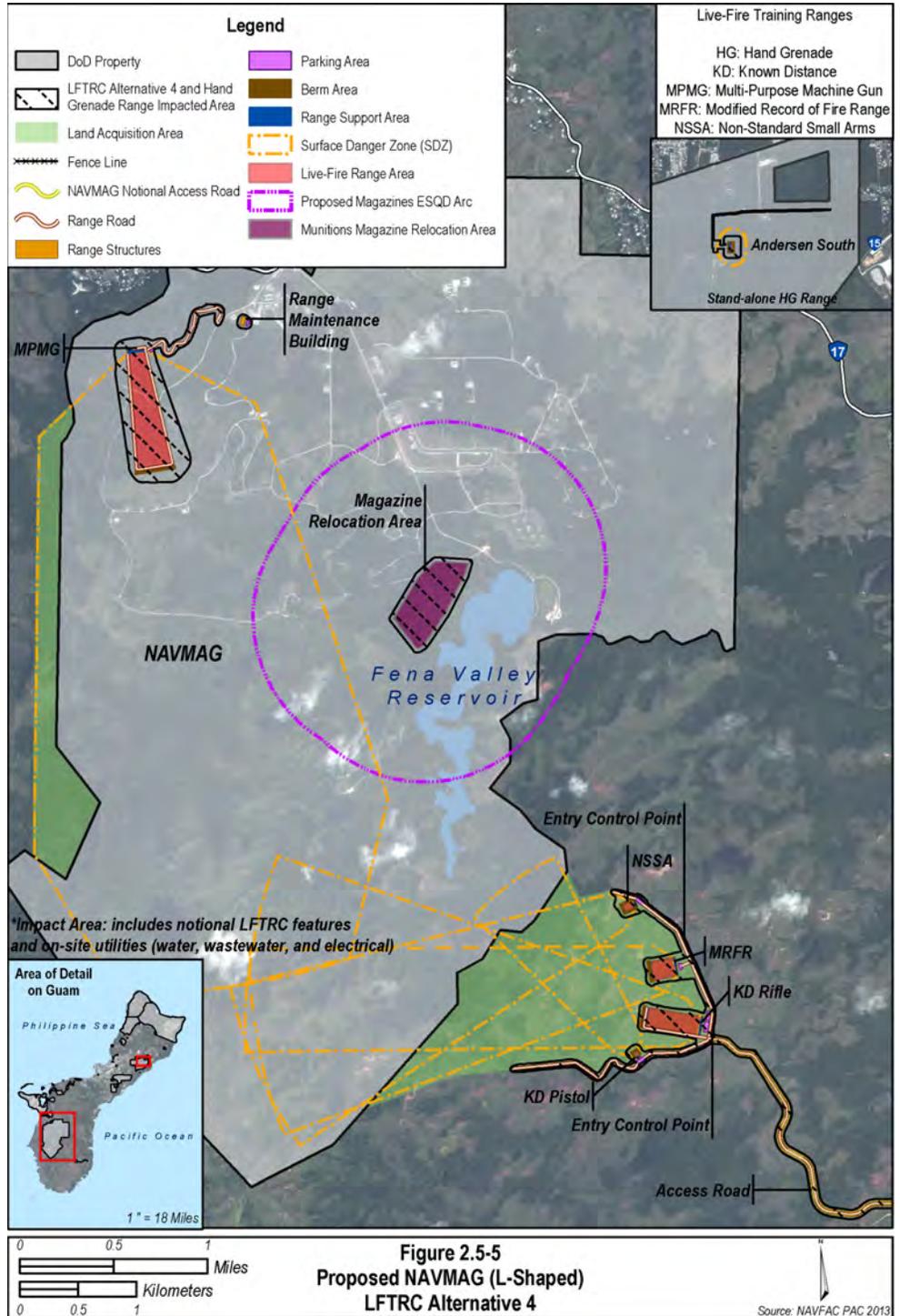
Alternative 4 has up to 25.2 acres of potential wetlands and as a result of the MPMG, KD Rifle Range and roads, a moderate to significant long-term impact. The same mitigation process as described in the Alternative 1 would be used here as well. Alternative 4 would have a greater impact to visual resources than Alternatives 1 and 2 because of the potential ability to see the new structures from multiple viewing areas.

This alternative would also impact eleven historic properties from excavation and soil removal and potentially impact the natural resources from the removal of vegetation. Potential fire increase would also have direct effects on vegetation by increasing erosion, which would allow for non-native species to become established.

### Operation Phase Impacts:

Similar to Alternative 2, valued land impacts would be a direct and long-term result of restricted access to a portion of the Bolanos Conservation Area. This alternative would have the same level of impacts as Alternatives 1 and 2, and would following the same mitigation measures as Alternative 2.

There would be a moderate to significant impact from the development of 131 acres

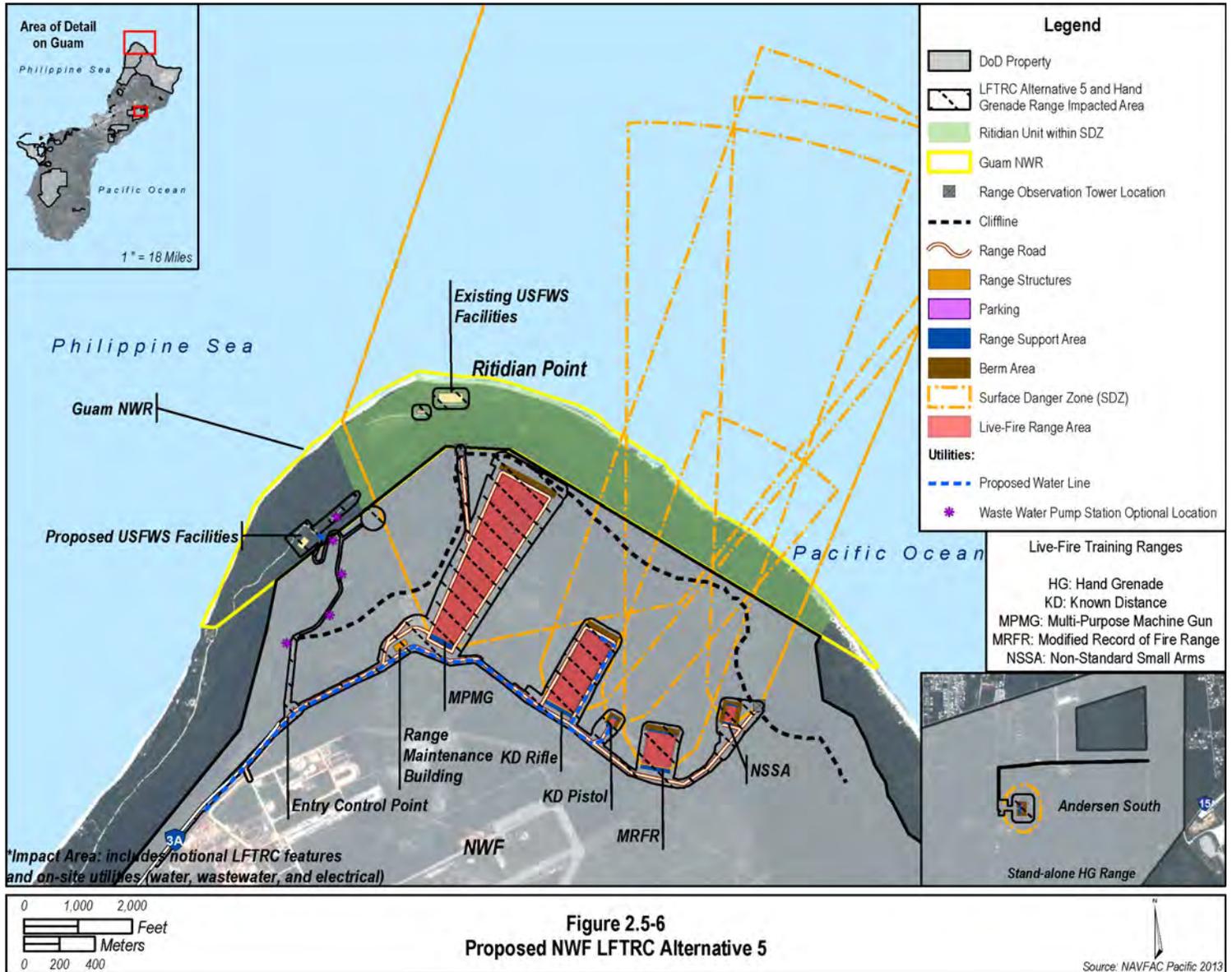


of limestone forest and 62 acres of ravine forest. The same level of impact would affect 219 acres of the Overly Refuge land, with the same mitigation process as described in Alternative 3.

Just as in Alternative 1, 2, and 3, there would be a large significant impact on

civilian air traffic that would follow the same mitigation measures as described in the Mitigation panel.

Impacts to 24 historic properties would occur due to the change in the site along with four potential TCPs from restricting access.



## Alternative 5 : Northwest Field - Preferred

### Construction Phase Impacts

The preferred Alternative 5 for the LFTRC would occur at the Northwest Field located at the Ritidian Point at the north edge of Guam’s limestone province. This alternative would result in significant impacts to four resource areas: geological and soil resources, land use/ submerged land use, terrestrial biological

resources and cultural resources. Over 201 acres of limestone forest would be developed along with 255 acres of Overlay Refuge lands which would cause a significant loss of vegetation.

The major changes in the surface elevation are due to construction of MPMG Range which would cause a long-term topography impact, and a potential increase in soil erosion. Storm water infrastructure improvements are included as part of

the proposed alternative to minimize the erosion from runoff.

If the existing U.S. Fish and Wildlife Services (USFWS) facilities are demolished then existing elevations would not have to be changed so drastically, which would allow this component to have a less significant long term impact. This alternative would have the second lowest amount of excavation out of all of the other alternatives.



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### Alternative 5 : Northwest Field - Preferred (continued)

Public access would be restricted to the area and submerged lands within the SDZs which are within the Ritidian Unit of the National Wildlife Refuge (NWR). These are two private land parcels and are in control of the Department of the Interior (DOI). Restrictions would be limited to the SDZ minimum area and any period of use by the LFTRC due to the training schedule and safety reasons. When considering operational impacts, there is potential that two NRHP sites would be restricted from access and three sites would change in use.

Cultural Impacts would also affect 22 historic properties and undetermined effects to one unevaluated site from development.

Possible mitigation measures would be to avoid or minimize any significant loss in cultural resources through a planning process. If avoidance is not an alternative, some resolving measures would include:

- Identifying and evaluating other applicable properties
- A mitigation plan
- Consulting with Programmatic Agreement (PA) Signatories
- Conducting a data recovery review
- Submit the data recovery documents to State Historic Preservation Office (SHPO)
- And preparing the public with educational materials.

#### Operation Phase Impacts:

Airspace would have the same affects as described in Alternative 1, but due to the proximity of Alternative 5 to Andersen Air Force base (AAFB), there would be additional restrictions and concerns. Safe sectors would require updating along with simultaneous operations for the Northwest Field landing and drop zone. Even though less than significant impacts are directed towards civil aviation, it would have potentially significant impacts to the military air operations around AAFB.

Affected environments would include air quality, as Alternative 5 is located in close proximity to AAFB there are various operational activities that would be occurring at the base. In addition noise levels will be within zones 2 and 3, operations would include demolition charges, smoke grenades, and ground burst simulators. The noise levels will not affect the surrounding residents.

### Mitigation Measures

For significant impacts to limestone forest:

- Removal of non-native, invasive vegetation.
- Planting and establishment of native limestone forest habitats.
- Exclusion of fencing and active control.
- Fire protocols and conditions to manage breakouts.

For significant impact to existing visual appearance:

- Land clearing and grading would be minimized for range uses
- Use native flora to create a natural appearing screen around the range areas and outside of the firebreak perimeter.

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Definitions for terms and acronyms used in this and other related reports can be found in the *Acronym Guide and Glossary* at [www.one.guam.gov](http://www.one.guam.gov).